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# USDA



**STRATEGIC PLAN**

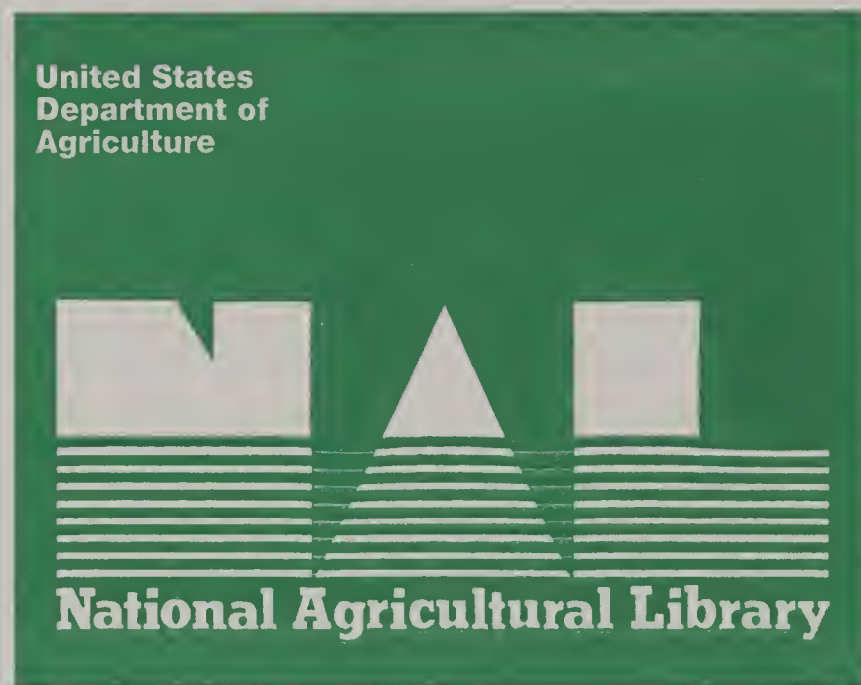
**FOR BIOBASED PRODUCTS**

**THROUGH THE**

**BIOBASED PRODUCTS COORDINATION COUNCIL**

**June 1999**

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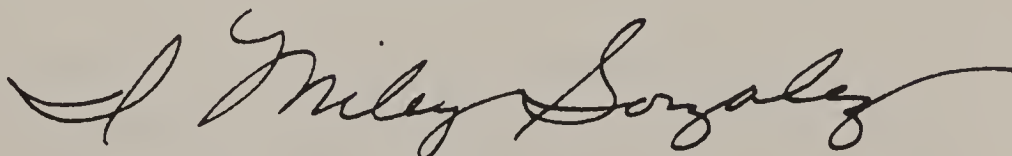
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June 1999

As the next millennium approaches, our country needs to be looking at new ways of using its resources to ensure an environmentally acceptable and sustainable source of raw materials for future generations.

I support Secretary of Agriculture Dan Glickman who has long been a proponent of research and development for new products and new uses from agricultural and forestry resources. We have formed the Biobased Products Coordination Council (BPCC) within the Department of Agriculture to address this important area. With input from many groups and partner agencies, the BPCC has developed this strategic plan to increase the domestic research, development and commercialization of biobased products that will contribute to increasing economic opportunities for U.S. farmers.

This strategic plan is the result of the work of representatives of each activity with membership in the BPCC and the input of those who attended the October 1998 "Retreat" and who offered their advice and ideas for a strong biobased economy. I extend my appreciation to each and every one.



I. MILEY GONZALEZ

Under Secretary

Research, Education, and Economics

Chair, Biobased Products Coordination Council

U.S.D.A., NAL

JUN 1 1999

Cataloging Prep





# **STRATEGIC PLAN FOR BIOBASED PRODUCTS THROUGH THE BIOBASED PRODUCTS COORDINATION COUNCIL (BPCC)**

## **EXECUTIVE SUMMARY**

USDA formed the BPCC whose goal is to carry out programs to increase the domestic research, development and commercialization of biobased industrial and commercial products. The BPCC has developed this strategic plan in cooperation with outside interest groups and believes that we can accomplish this goal in the next 5 years using the following objectives:

- provide USDA leadership in the Federal Government for increasing research, development, and commercialization of biobased products,
- increase USDA's commitment to biobased products, and
- educate policy makers and the public on the advantages of biobased products.

## **STRATEGIC PLAN**

### **INTRODUCTION**

Research into the use of agricultural and forestry materials for biobased industrial products and processes has been conducted for many years by the Federal Government. More recently Federal funds have been appropriated to USDA to facilitate the transfer of USDA-developed technology and to commercialize industrial uses for agricultural materials. Traditional and new agricultural and forestry materials can provide renewable raw materials for manufacturing a broad range of chemical, energy, construction, fiber, composite, and other commercial products.

USDA formed the BPCC to enhance its programs to increase the use of biobased products. Expanded development and commercialization of biobased products will spur rural economic development, provide environmentally preferable products and processes, foster sustainable production of our resources, and reduce dependency on imported products. Increased markets for competitively priced products comparable to non-biobased products will drive the greater use of biobased products. This strategic plan outlines USDA's approach to accelerate such development and promote the use of biobased products.

## BACKGROUND

First, a **biobased product** in this report is defined as "a commercial or industrial product, other than food or feed, that utilizes biological products or renewable domestic agricultural (plant, animal, and marine) or forestry materials." And, "**environmentally preferable** means "products that have a lesser or reduced effect on human health and the environment when compared with competing products that serve the same purpose."

Over the last several years, a number of key projects and events have shaped the components of this strategic plan.

**The Biobased Products Coordination Council (BPCC)** was created by Secretary Glickman in September 1995 to share information, implement strategic planning, and provide policy advice to the Secretary of Agriculture on the Federal governments's role in the development and commercialization of biobased industrial products from agricultural and forestry resources. Membership includes the following USDA Offices and Agencies:

- Agricultural Marketing Service (AMS)
- Agricultural Research Service (ARS)
- Alternative Agricultural Research and Commercialization Corporation (AARCC)
- Assistant Secretary for Administration, (Office of Procurement and Property Management ASA/OPPM)
- Cooperative State Research, Education, and Extension Service (CSREES)
- Economic Research Service (ERS)
- Foreign Agricultural Service (FAS)
- Forest Service (FS)
- Natural Resources Conservation Service (NRCS)
- Office of Energy Policy and New Uses (OEPNU)
- Rural Business-Cooperative Service (RBCS)
- Under Secretary for Research, Education and Economics (REE)

**The National Research Council Report, Biobased Industrial Products**, will soon be released. This report was sanctioned by the Board of Biology of the National Academy of Sciences, and prepared by distinguished scientists who formed the Committee on Biobased Industrial Products. The report was funded by USDA, the Department of Energy, and the National Science Foundation. The Committee concluded that "Federal support of research on biobased industrial products can be an effective means to improve competitiveness of biobased feedstocks and processing technologies, as well as diversify the nation's industrial base of raw materials,...." The report will provide many recommendations for specific research priorities.



**Executive Order 13101, Greening the Government Through Waste Prevention, Recycling and Federal Acquisition**, calls for active involvement by USDA. In consultation with the Federal Environmental Executive, the BPCC is charged with preparing a list of biobased products that will be part of an affirmative procurement program for all Federal Agencies. EO 13101 directs the Federal Government, as a large potential purchaser, to set the example for the general public. Further, the BPCC is also assisting with supporting a USDA Agency Representative to the White House Task Force to accomplish USDA's commitments to EO 13101.

**The Department of Energy, Office of Industrial Technology**, has developed a **Plant/Crop-Based Renewable Resources 2020 Program** with USDA input. This program calls for increased use of America's crops, trees, and agricultural waste for making a wide range of consumer goods such as plastics, paints, and adhesives. Goals of this program are published in a document outlining "roadmaps" to reach certain targets for the development and use of new crops and processes for the future. Agenda 2020 for the forest, wood, and paper industry is a similar program which started in 1994.

**The Materials Technology Subcommittee of the National Science and Technology Council (NSTC)** has been working to establish the priorities for the United States in materials research. USDA has provided input through the BPCC and will continue to work with this high-level committee to improve the effectiveness of Federal Government research programs in biobased products. In addition, the BPCC will work with other NSTC committees, such as the Biotechnology Research Committee, to enhance Federal research in biobased products.

**The National Marketplace for the Environment** was held in Washington, D.C., November, 1997. USDA was the major sponsor of this trade show and conference. Secretary Glickman was the keynote speaker. The BPCC coordinated USDA's involvement, which also included a large USDA display and several conference sessions. The conference clearly established the term "biobased" as part of the lexicon.

**A BPCC-sponsored Retreat was held October, 13, 1998** at the Patuxent Wildlife Visitor Center in Laurel, Maryland. About 75 key people from government, private sector, and university organizations met to identify ways in which USDA can be more successful in increasing the development and commercialization of biobased industrial products from agriculture and forestry resources. The attendees were asked to give direction on the goals which the BPCC should address during the next 5 years by:

- determining the major barriers to greater use of biobased products and
- recommending and prioritizing what USDA can do to overcome these barriers.

This strategic plan is a result of the input from this meeting and from the work of representatives of each USDA Agency with membership in the BPCC.

## STRATEGIC DIRECTION

Those highest priority activities which the BPCC believes it can achieve in the next 5 years are described below. To be consistent with the new government directions for preparation and submission of strategic plans, the items are described in terms of an overall goal, several objectives, long-term outcome measures, and strategies for achieving the objectives.

**Goal:** Increase the domestic research, development and commercialization of biobased industrial and commercial products

Over the last century, petroleum-based products have replaced many products that were once made from agricultural or forestry materials. As the latest advances in microbial and plant genetic engineering reduce the cost of producing biologically based products, the tide may again turn. The finite size of our remaining petroleum reserve and the damage to our environment because of continued use of these non-renewable resources should encourage our Federal Government to look for better ways to use our country's biobased resources.

**Objective 1:** Provide USDA leadership in the Federal Government for increasing research, development, and commercialization of biobased products.

### **Long-term outcome measures**

- o Increased USDA sponsorship and participation in intergovernment committees.
- o Higher level involvement in the review of other agencies biobased products programs (e.g., DOE and EPA).
- o Increased funding for biobased products research, development and commercialization through grants, venture investments, and loan guarantees.
- o Increased sales of biobased products developed by or invested in by USDA.

### **Strategies**

- o Establish USDA as the lead advocate for the development and commercialization of biobased industrial and commercial products.
- o Involve funding agencies within USDA in the BPCC to gain acceptance of increased funding prospects for biobased industrial and commercial products.
- o Work with DOE, Office of Industrial Technologies, to insure quality programs related to biobased products, such as the Plant/Crop-Based Renewable Resources 2020 Program.

- o Work with the Materials Technology Subcommittee of the National Science and Technology Council to increase emphasis on biobased materials research.
- o Work with the Office of the Federal Environmental Executive and the USDA Agency Environmental Executive to establish emphasis on biobased materials research.

**Objective 2:** Increase USDA's commitment to biobased products.

**Long-term outcome measures**

- o Increased purchase of biobased products by USDA.
- o Increased funding for USDA activities related to biobased products.

**Strategies**

- o Develop a Departmental budget initiative to support increased research, development, marketing, and outreach to support greater domestic use of biobased products.
- o Recommend ten biobased products for affirmative procurement by USDA in Fiscal Year 1999.
- o Work with the USDA Agency Environmental Executive to maximize procurement of biobased products through the USDA Affirmative Procurement Program.
- o Establish language in the solicitation and execution of USDA grants to encourage the purchase and use of biobased products in implementation of projects.
- o Develop award incentives for affirmative procurement of biobased products within agencies.
- o Initiate a study to determine the role of biobased products in stabilizing crop prices and compare the use of these same crops that can be used for food and feed only.

**Objective 3:** Educate policy makers and the public on the advantages of biobased products.

**Long-term outcome measures**

- o Increase the purchase of biobased products by the Federal government by 10 percent per year over the next five years.



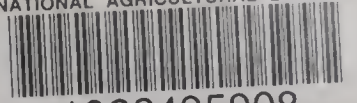
- o Offer education on biobased products and outreach to potential users at national meetings.

### **Strategies**

- o Develop an expanded list of biobased products for a government-wide affirmative procurement program.
- o Provide a representative to the Office of the Federal Environmental Executive and assist with acquiring Departmental funding to improve outreach for biobased products through EO 13101 and other EO's.
- o Create curriculum on biobased products for the classroom at all educational levels.
- o Participate in national meetings, such as the National Recycling Coalition, to educate the attendees on the advantages and environmental benefits of existing and new biobased products.

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